



Procedures and Guidelines

DIRECTIVE NO. 205-WI-6400.1.1C
EFFECTIVE DATE: February 18, 2000
EXPIRATION DATE: N/A

APPROVED BY Signature: *Original Signed by*
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TITLE: Head, Safety and Environmental Branch

Responsible Office: Code 205.2 / Safety and Environmental Branch

Title: EXPLOSIVES STORAGE

P1. PURPOSE

The purpose of this work instruction is to define the steps necessary to establish and ensure the correct and uniform method for storage of explosives at Goddard Space Flight Center.

P2. SCOPE

This work instruction covers the storage of all explosives within the storage facility (Building 27B) at the Greenbelt facility of Goddard Space Flight Center. Explosives on hand for testing, integrated into test articles, or requiring special storage shall be the responsibility of the Program Manager. Use, handling, and storage of these materials is subject to review and approval of the Safety and Environmental Branch.

P3. DEFINITIONS

Explosives. The term explosives refers to any chemical compound or mechanical mixture that upon initiation undergoes a rapid chemical change with the evolution of large volumes of highly heated gases that exert pressure on surrounding medium. The term applies to materials that either detonate or deflagrate.

P4. RECORDS, REPORTS AND FORMS

- 4.1. GSFC 23-50, Class "C" Explosives Inventory Control Record. As a minimum, the following fields of the form must be completed: Name, Code, Tel. Ext., Manufacturer, Item Description, Quantity Entered, Entered By, Entry Date. When applicable, the following fields shall be completed. Quantity Removed, Issues To, Date, Intended Use, Final Disposition.
- 4.2. Electronic Spread Sheet, Building 27B Inventory
- 4.3. Quality Records Retention and Disposition

Quality Record Title	Record Custodian	Retention/Schedule
Class "C" Explosives Inventory Control Record, GSFC 23-50	Safety and Environmental Branch	6 months after final disposition of the explosives

P5. SAFETY PRECAUTIONS AND WARNING NOTES

All persons handling or storing explosives shall have documented training in the use, handling, and storage of explosives. All personnel shall conduct themselves in accordance with their training and industry practices.

Lightning protection and static grounding systems shall be visually inspected on a quarterly basis and physically tested on an annual basis to ensure their adequacy. Inspections and tests will be logged in the electronic spreadsheet with the building 27B inventory. Testing and visual inspection of ESD systems and lightning protection shall meet the requirements of NSS 1740.12, "Safety Standards for Explosives, Propellants, and Pyrotechnics", Sections 514 and 519; and GHB 1720.1A "Goddard Space Flight Center Explosives and Pyrotechnic Safety".

P6. REFERENCES

NSS 1740.12 "Safety Standard for Explosives, Propellants, and Pyrotechnics"
GHB 1720.1A "Goddard Space Flight Center Explosives and Pyrotechnic Safety"

P7. TOOLS, EQUIPMENT, AND MATERIALS

Static/grounding straps and face shields shall be used during any operation in which explosive packaging is opened or inspected.

P8. CANCELLATION

205-WI-6400.1.1A, Explosives Storage

P9. INSTRUCTIONS

For the Addition of new explosives into inventory, the following steps shall be taken:

1. Upon notification of the arrival of new explosives by Users or Code 230 Receiving, an authorized, explosives trained member of Code 205.2 shall arrange with the owner of the explosives for an appropriate time to add the material into inventory at Building 27B.
2. At the agreed upon time, Code 205.2 and the Owner of the explosive shall meet at 27B and complete an explosives storage inventory record.
3. GSFC 1650, Class "C" Explosives Inventory Control Record shall be initiated or modified and the data provided to the Explosives Safety Program Manager.
4. Code 205.2 shall maintain the explosive in an environmentally controlled, physically secure facility until such time as the Owner requires the explosives for project requirements or it is deemed ready for disposal.

For the Removal of explosives currently in inventory, the following steps shall be taken:

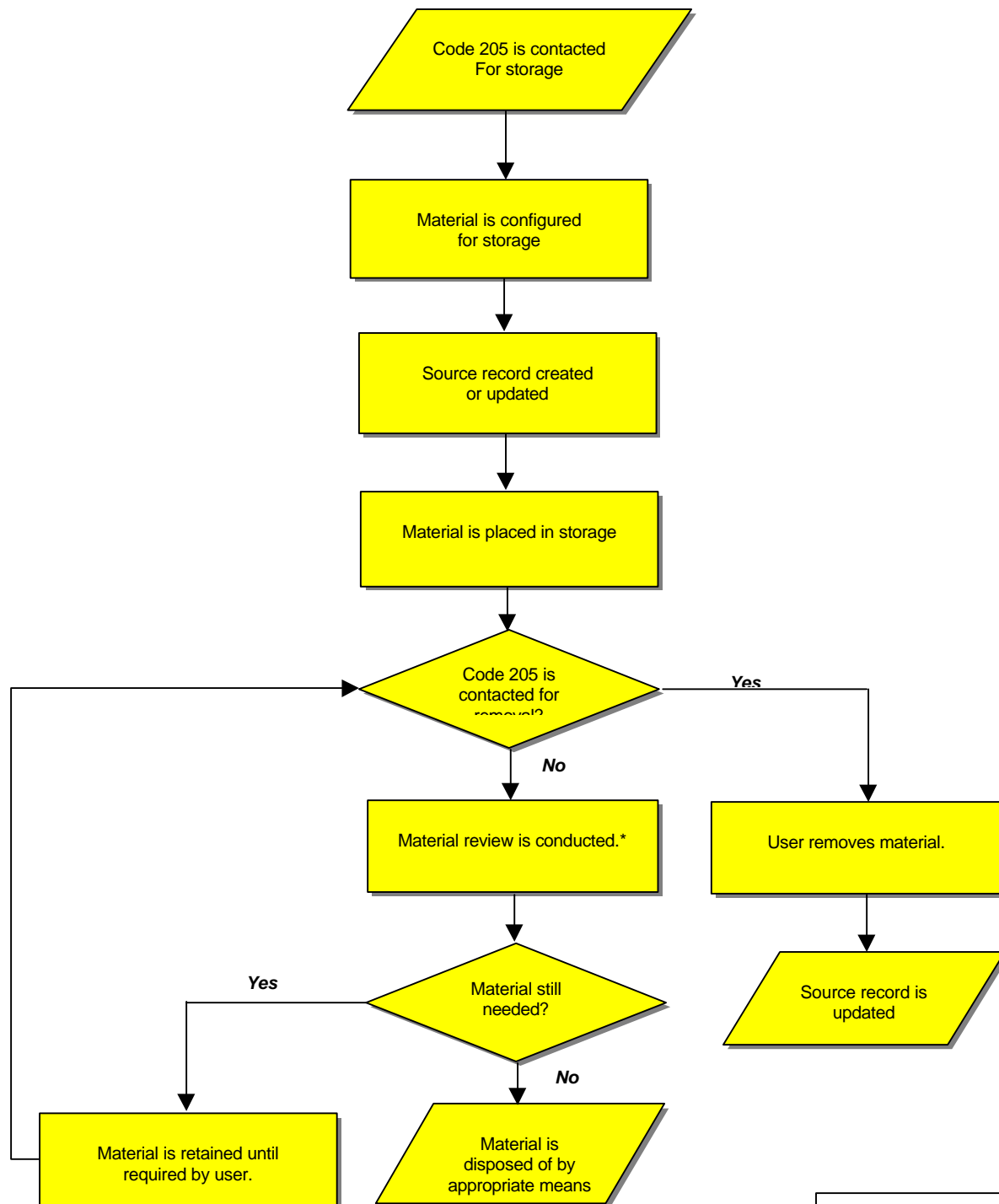
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1. Upon notification of the need for removal of explosives by a User, an authorized, explosives trained member of Code 205.2 shall arrange for an appropriate time to meet at Building 27B.
2. At the agreed upon time, Code 205.2 and the User of the explosive shall meet at 27B and modify the explosives storage inventory record to indicate the removal of part or all of the User's explosives as appropriate.
3. GSFC 1650, Class "C" Explosives Inventory Control Record shall be modified and the data provided to the Explosives Safety Program Manager.

P10. FLOW DIAGRAM

Safety and Environmental Branch Flow Diagram for Controlled Storage is attached.



* Material review is conducted when 75% of the magazine explosive capacity is reached

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CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	12/28/98	
Revision A	8/23/99	Inserted new paragraph P8 to identify cancellations and to comply with GPG 1410.1 and renumbered remaining paragraphs. Changes were made to paragraphs P4 and P9 to specify quality records requirements.
Revision B	8/25/99	Changes were made to the final paragraph in P5 to incorporate NASA safety requirements for the inspection and testing of ground systems in the storage facility.
Revision C	2/18/00	Changes were made in the flow diagram in P10 to show that the review period is not based on a set time, but on the amount of explosives in the storage facility.

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